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NORTH AMERICAN AIR DEFENSE COMMAND

WIR

WEEKLY INTELLIGENCE REVIEW (U)

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Weekly Intelligence Review

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Issue No. 33/65, 13 August 1965

The WIR in Brief

Portion identified as non-responsive to the appeal

Portion identified as non-responsive to the appeal

Space

STAND-BY VEHICLES APPARENTLY NOT PROVIDED FOR PHOTORECCE SATELLITE PROGRAM 10
Sequence of launches interrupted by 13 July failure.

COSMOS 77 DE-ORBITED ROUTINELY 11
On Rev 128.

PROTON 1 LAUNCH VEHICLE GENERATED 60 MILLION H.P., SOVIETS CLAIM 11
Claim uninformative.

COVER: BLINDER bombers (air show of 1961) (from Aviation Week) (OFFICIAL USE ONLY)

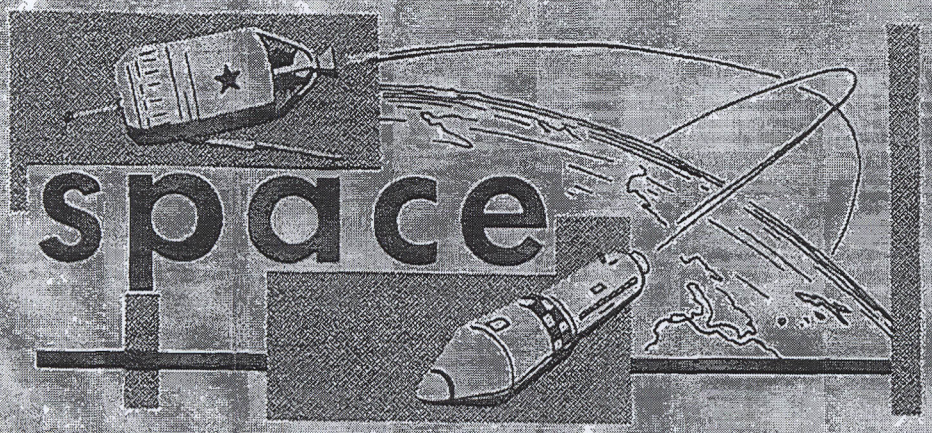
NOTE: Pages 28, 29, 32, 33, 36, 37, 40, 41, and 42 of this issue are blank.

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significant intelligence on space developments and trends

Stand-by Vehicles Apparently Not Provided for Photorecce Satellite Program

The Soviets apparently do not provide stand-by vehicles to replace launch failures in their photoreconnaissance satellite (PRS) program. This possibility is suggested by a recent interruption in the sequence of PRS launches which is best explained by a 13 July launch failure at Tyuratam.

- The first 8 Soviet PRSs launched this year unfailingly alternated in the use of Lunik and Venik upper stages, which are used to inject the payloads into orbit. The Lunik was used with the 1st, 3d, 5th, and 7th vehicles launched this year, the Venik in the 2d, 4th, 6th, and 8th launches. But the 9th vehicle interrupted this pattern by using a Venik, as did the 8th one. (See chart on page 39.)
- This year, a new PRS has been launched within 2-20 days following de-orbit of the previous PRS (except for the out-of-season launch of 11 January). But a full 31 days elapsed between de-orbit of Cosmos 69 (3 July) and launch of Cosmos 77 (3 August).

The most obvious explanation for these two apparent anomalies is that an abortive Tyuratam launch of 13 July involved a PRS which was to have been injected into orbit by a Lunik upper stage. Such a launch would have preserved continuity in the pattern of alternating the use of Lunik and Venik upper stages and in intervals between de-orbit of one photorecce-satellite and its successor.

If the 13 July failure involved a PRS, then it is equally obvious that the Soviets did not have a standby vehicle ready. If they did, launch of another Lunik-equipped vehicle could have taken place within a day or two.

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It thus appears that the logistics -- production and transport -- of upper staging and of payloads for the Soviet PRS program are geared to a definite launch schedule which makes no allowance for failures. The Soviets' policy may have been logical, in view of the relatively few failures experienced since their PRS program became operational. (FTD; NORAD)
~~(SECRET)~~

Cosmos 77, Photorecce Satellite, De-Orbited Routinely

Cosmos 77, which the Soviets launched from Tyuratam at about 1100Z, 3 August, was de-orbited on Revolution 128 after nearly 8 days in orbit. It probably impacted in the USSR at about 0925Z, 11 August. The mission of Cosmos 77 is believed to have been photoreconnaissance, although equipment for other missions could also have been carried. (SPADATS; NORAD)
~~(SECRET~~ NO FOREIGN DISSEMINATION -- Releasable to US, UK & Canada)

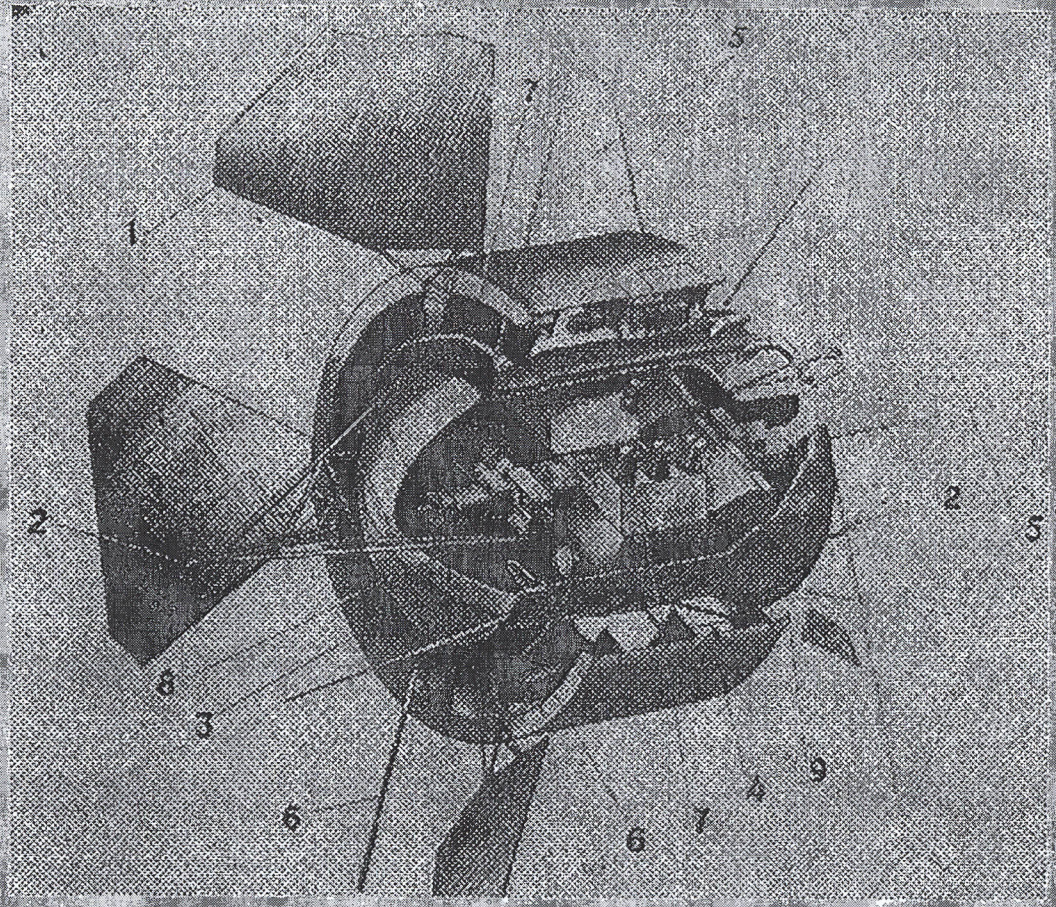
Proton 1 Launch Vehicle Generated 60 Million HP, Soviets Claim

The rocket which launched Proton 1, which the Soviets say weighed nearly 27,000 pounds, generated 60 million horsepower, according to recent reports in Izvestia and Red Star. A drawing of Proton 1, taken from Red Star, is shown on page 38.)

This claim is of little value in formulating an estimate of the rocket's thrust in pounds, the usual index for stating the power performance of rockets and missiles. The Soviets previously used this deceptive terminology in 1961 when, in claiming world records for their first manned spaceflights, they reported that the rocket which launched the Vostoks generated 20 million horsepower. (UNCLASSIFIED)

(Begin SECRET) A preliminary estimate by FTD, assuming that Proton 1 weighed 12.2 metric tons, is that: the launch vehicle had a thrust of about 2 million pounds -- assuming a 2-stage vehicle with a thrust-to-weight ratio of 1.5, or about 1.42 million pounds -- assuming a 3-stage vehicle with a thrust-to-weight ratio of 1.35. (Red Star; NORAD; FTD)
~~(SECRET)~~

Proton 1



1. Panels for collecting solar energy.
2. Altitude sensor.
3. Sealed body.
4. Sealed casing.
5. Telemetry, communications, and beacon antennas.
6. Chemical sources of electrical current.
7. Block of scientific apparatus.
8. Radio equipment.
9. Heat exchanger.

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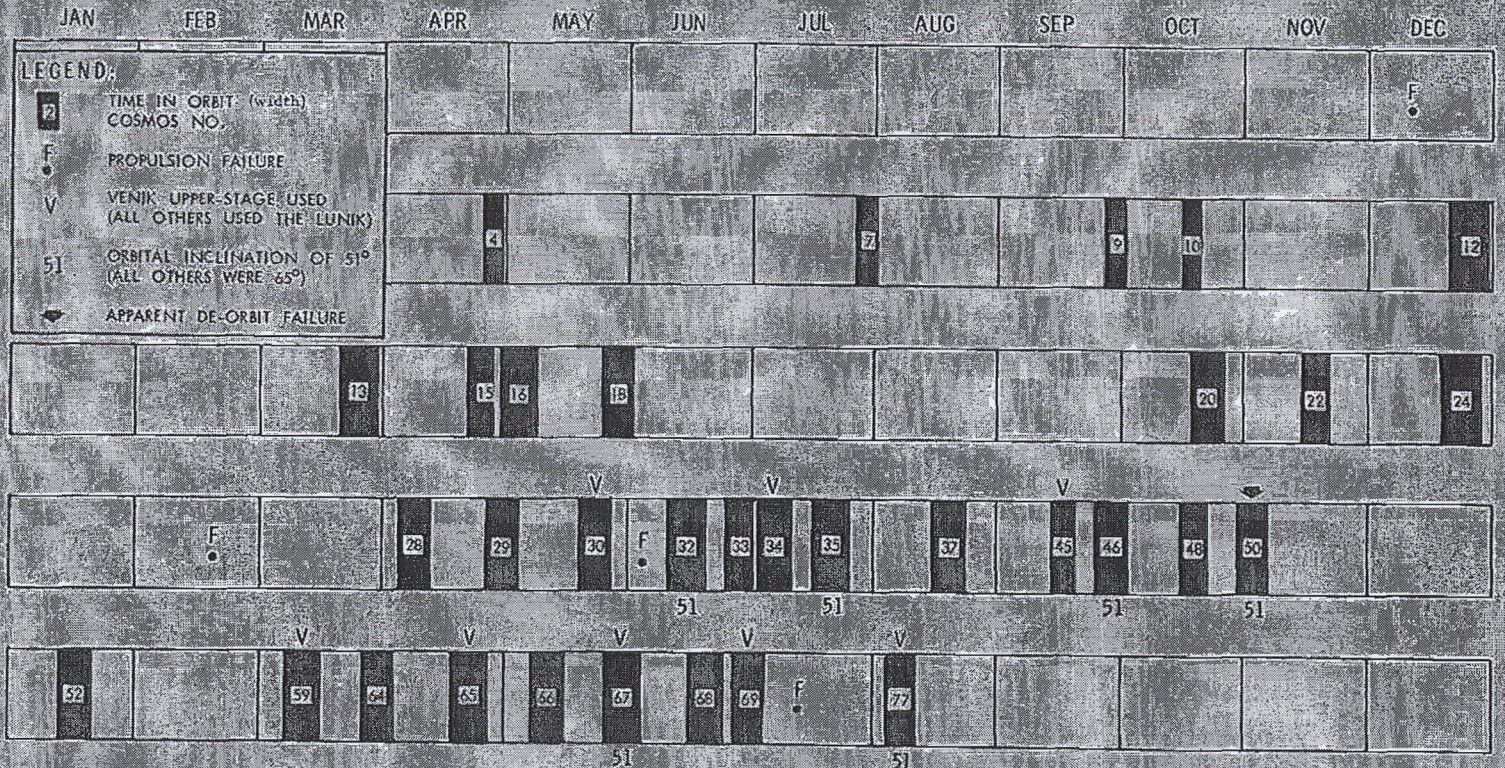
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Soviet Photoreconnaissance Satellites (most recoverable Cosmoses launched from Tyuratam)



All these vehicles were launched by the SS-6 ICBM booster-sustainer and injected into orbit by an upper stage. Launches were timed for optimum conditions for photography when passing over the US and southern Canada. Perigees were relatively low. Payloads were horizon-oriented.

All vehicles were de-orbited successfully (and film presumably recovered) except for Cosmos 50. Resolution of camera systems believed to be 20-40' for Lunik-injected payloads, which weigh about 10,000 pounds, and 5-6' for Venik-injected payloads, which could weigh up to 15,000 pounds. Camera systems would occupy only fraction of payload, hence equipment for other missions could be carried. Soviets claim all Cosmoses are "scientific research" vehicles. Some have gathered radiation data.

Note infrequency and short duration of early launches and 6.5-month gap in mid-1963, after which system probably became operational. Most 1964 and 1965 missions have lasted 8 days.

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The Soviets apparently did not have a stand-by vehicle ready when the launch of 13 July failed

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